

## Abstract

A single cell comprising a fuel electrode, an air electrode, and an electrolytic layer or hollow layer interposed between those electrodes, or a fuel cell comprised of a stack of these single cells, wherein a supply port is formed on the fuel electrode side for supplying a hydrogen-based/oxygen-based mixed gas obtained by electrolyzing an electrolyte fluid by agitating and stirring and collecting the resulting gas; moreover the fuel electrode to which the hydrogen-based/oxygen-based mixed gas is supplied is gas-permeable. The hydrogen-based/oxygen-based mixed gas contains H, H<sub>2</sub>, H<sub>3</sub>, and/or HD, OH, <sup>16</sup>O, and O<sub>2</sub>.